

# *SSL Postings*

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If there was a theme that emerged at the U.S. Department of Energy's (DOE) sixth annual SSL Market Introduction Workshop, held last week in Seattle, it was the big step forward that solid-state lighting seems to have taken over the past year. Evidence of that step could be found in workshop presentations from a broad base of stakeholders – manufacturers, retailers, utilities, and others – giving an overall sense that, while SSL is not yet suitable for every application, it's become a definite force to be reckoned with.

For example, although LED T8 replacement lamps still can't match the performance of their fluorescent counterparts, there are a number of newly introduced integral SSL troffer luminaires that compete quite well in terms of both performance and cost-effectiveness. Colleen Pastore of Philips Lightolier noted that her company's Skyway LP LED troffer fixture has an efficacy range of about 73 lm/W to 78 lm/W and is priced to achieve a three- to five-year payback in retrofit applications. Gary Trott of Cree LED Lighting Solutions said that his company's CR24 troffer series, which ranges in efficacy from 90 lm/W to 110 lm/W, is priced aggressively and can achieve a payback of as little as two years for new construction. He added that Cree's CR6 LED series of downlights – an application where SSL has made early inroads because of its directionality – has already reached the inflection point where price is low enough and performance is high enough to cause a rapid increase in sales.

There's also been progress with replacement lamps, which have been getting a fair amount of attention lately. At the workshop, Dan

Mellinger of Efficiency Vermont, a statewide energy efficiency utility, said that two-thirds of the lighting energy savings they've achieved since 2009 has come from LED screw-base lamps. Marc Maldoff of the retail chain Lowe's noted that the best lumen outputs of the LED replacement lamps offered by his company have essentially doubled over the past year – with A19s reaching 810 lumens, PAR20s 550 lumens, PAR30s 970 lumens, and PAR38s 1100 lumens.

Bill Hamilton of The Home Depot observed that LED products already account for nearly 10 percent of his company's retail light bulb business in those regions where there are utility rebates to offset the initial cost – although he emphasized that there's still a huge need to educate consumers, many of whom remain unaware of the upcoming lighting changes due to the Energy Independence and Security Act of 2007, as well as the benefits of SSL.

Street lighting is another area where SSL is showing that it can compete with incumbent technologies. Edward Smalley of Seattle City Light, who directs DOE's [Municipal Solid-State Street Lighting Consortium](#), described his city's progress in its plan to replace 41,000 residential street lights with LED fixtures. In addition to energy savings of 48 percent, he cited maintenance savings and improved safety from better lighting quality as among the driving forces behind the project, which began in 2007. Workshop attendees got a chance to see some of Seattle's LED street lighting installations firsthand on a guided bus tour the last night, which served to unofficially kick off the Consortium's own one-day regional workshop that was held the following day.

The issue of lifetime has been key for solid-state lighting, and a workshop panel on that topic indicated progress there as well. While more work still needs to be done before standards can be developed, it's clear that there's now a broader, more industry-wide understanding about SSL lifetime and reliability, and how it goes far beyond lumen maintenance of the LEDs, to take into account all the other components that come into play. A panel on SSL reliability

and lifetime discussed a recent report produced by a working group under the auspices of DOE and the Next Generation Lighting Industry Alliance (NGLIA). The report is a [revised and updated set of recommendations](#) for reporting and demonstrating LED luminaire lifetime, which reflects this added knowledge and has brought the industry closer to a common understanding and characterization of product lifetime and reliability.

One of the goals of the DOE/NGLIA working group is to support DOE's [Lighting Facts](#) program, whose label currently doesn't include a lifetime metric. Lighting Facts data was cited in a number of workshop presentations, and it was noted that nearly 3,000 LED products are now registered with the program – yet another indication of the progress SSL has made over the past year. To emphasize the growing impact of Lighting Facts and the important role its partners are playing, DOE recognized nine of those partners at the workshop – including Lowe's, Efficiency Vermont, Sacramento Municipal Utility District, Acuity Brands, BetaLED, Osram Sylvania, Satco, Grainger, and The Home Depot.

It was, perhaps, fitting that last week's workshop was held almost literally in the shadow of Seattle's futuristic-looking Space Needle, because there are many who feel that solid-state lighting will be the technology that lights our way to an energy-efficient future. From what we saw at the workshop, the way things are progressing is only making their conviction grow stronger.

As always, if you have questions or comments, you can reach us at [postings@lightingfacts.com](mailto:postings@lightingfacts.com).